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## PROVISIONAL SPECIFICATION

## Improvements in or relating to Bicycle, Tricycle, Motor Cycle and like Machine Saddles

I, LESLIE GEMMILL SCOUTER, a British Subject, of 96, Aldermans Hill, Palmers Green, London, N.13, do hereby declare the nature of this invention to be as follows:—

This invention relates to cycle, tricycle, motor cycle and like machine saddles hereinafter referred to as cycle saddle or cycle saddles. Such saddles as are in general use are each provided with a peaked front which is frequently the cause of trouble to a rider. Further the design of the saddle is such that the pressure of the rider thereon is not transmitted to the proper anatomical parts of the rider's body. This causes the frequent complaint known as saddle soreness.

The present invention has for its object to provide an improved form or construction of saddle the design of which is based on anatomical principles and which avoids the troubles and discomfort arising as the result of the use of an unsuitable saddle. A saddle in accordance with the present invention is simple in construction, efficient and comfortable in use.

According to the present invention there is provided a cycle or like saddle which comprises two pads, side by side, each adapted to fit below the ischial tubercle, and a mounting for the pads such that they are free to cant independently about an axis or axes extending transversely from side to side of the saddle.

The saddle may, if desired, comprise two laterally arranged and independent pads freely mounted on a transverse member one on each side of the machine frame, centring or counteracting means to maintain the pads in seating positions, means to prevent angular displacement of the transverse member, slidable means to connect the transverse member to the rear upright of the machine and means to cushion the up-and-down movements of the transverse member.

The pads are preferably normally maintained in an approximately horizontal position by spring centring means.

According to a further feature of the invention the mounting for the pads comprises a sliding column, a spring to support the column against the rider's weight and means to prevent twisting of the column when sliding.

The nature of the invention will now be described with reference to a specific form which is given by way of example and not by way of limitation.

According to the invention, a cycle saddle is provided and comprises two horizontally arranged supports which may be in the form of two circular rings or other suitable shape such as oval or horse-shoe shaped the gap on the latter form pointing forwardly. These supports may be provided with cushioning pads of any suitable form and material and they are hereinafter referred to as "pads." They are freely mounted on a transverse tube or rod by annular flanges to which the rings or other shaped pads are secured by any suitable means. The aforesaid transverse tube or rod is held against lateral angular displacement but may be allowed a cushioned up-and-down movement under the weight of a rider as hereinafter explained. The ring or other suitably shaped pads are subjected to the action of centring means which tend to maintain the pads in suitable seating positions, that is, in approximately horizontal positions whilst being allowed a certain amount of tilt on the transverse tube or rod. The centring means comprises two pairs of counteracting helical springs which are coiled on the transverse member, one pair of springs for each pad. The outer ends of each pair of counteracting helical springs may be connected to the aforesaid annular flanges or directly to any suitable parts of the respective pad. The inner ends of the springs may

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A in Figure 4.

Figure 2 is a plan view of the saddle shown in Figure 1.

Figure 3 is an under plan view of the saddle shown in Figure 1.

Figure 4 is a side elevation of the saddle mounted on the rear upright tube of a bicycle, and

Figure 5 is a view similar to Figure 4 showing a modified form of the saddle.

Like reference numerals indicate like parts throughout the Figures.

In this embodiment of the invention the bicycle saddle comprises two seat supports for the ischial tuberosities in the form of square curved plates 1 faced on their concave sides with sponge rubber or other resilient material to provide cushioned pads 2. A tubular bearing 3 which is less than the width of the plate is made integral with or fixed to the convex side of each plate. This bearing receives a transverse tube 4 on which both plates are co-axially mounted. On

either side of each tubular bearing is a collar 5 slidable along the shaft provided with a fixing set screw 6 so that the plates can be adjustably secured at different distances apart on the tube 4. To each screw 6 is attached one end of each of two helical tension springs 7. The other ends of these springs are attached by brackets 8 to the convex sides of the plate in such a manner that when the plate is partially rotated round the shaft on its bearing, i.e., tilted, one or other of the springs 7 will be extended, depending on the direction of rotation, and will urge the pad to return to a central position in which it is conveniently presented for mounting by the rider. As there are two collars 5 co-operating with each tubular bearing 3 each plate has a total of four springs associated with it. The tubular bearing 3 for each plate projects at its centre part into the pad 2 to minimise any forward or backward movement of the plate when tilted, by bringing the axis of rotation as near as is conveniently possible to the surface of the plate. Each pad is cut away at its centre to form a concavity to receive this projection of the tubular bearing. Between the two tubular bearings is a T-shaped bracket 9 having a

split horizontal bore through its crossbar and a split bore through its upright portion. The transverse tube 4 is carried by the horizontal bore and gripped therein by clamping bolt 11. Similarly the upright bore is adjustably secured to the tubular saddle pillar 10 by clamping bolt 12.

It will be appreciated that in the above example the supporting pads will tilt in use due to the movement of the rider's

legs when pedalling.

Another form of the invention is illustrated in Figure 5 of the drawings which differs from Figure 4 in that the collars 5 are replaced by spring clips 13. Each of these clips is provided with projecting arms 14, 15 to which the springs 16, 17 are attached. The other ends of the springs are attached to the convex side of the plate by brackets 8. A spring 17 is connected to arm 15 and spring 16 to arm 14 the springs will tend as the plates rotate about their bearing when the saddle is in use to cause the clip to tighten its grip on the shaft 4. If necessary the arms 14, 15 may also be clamped together by a nut and bolt.

It should be clearly understood that the foregoing example is of a particular embodiment of the invention and that changes or modifications may be made in the constructional details thereof. For example, the pad members may be of any convenient shape with or without hollow centres and may be supported on a base plate of metal or other suitable material. It is also within the scope of the invention that the pads may be made integral with the base plates.

Further a T-shaped bracket as described above is not the only way of supporting the transverse member of the saddle which could be employed. The saddle may for example, be supported at its extremities by a U-shaped member. Similarly the type or number of springs can be varied to suit the requirements of the rider. If it is desired further to cushion the road shocks, the saddle pillar may be made in the form of a sliding tube spring supported against the rider's weight in the rear upright tube of the bicycle, with means to prevent twisting of the tube when sliding. To this end the sliding tube may be provided with a key-way or be made non-circular in order to prevent it from rotating.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A bicycle or like saddle of the type described, wherein each seat support consists of a plate which is curved to concave form at the top to afford lateral stability to the rider, and the underside of the seat plate is undercut or recessed at the base of the curve to pass a transverse shaft on which the plate is mounted for tilting movement so as to bring the tilting axis of the plate close to the top surface of the plate for the purpose described.

2. A saddle as claimed in Claim 1, 130

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[This Drawing is a reproduction of the Original on a reduced scale.]

Fig. 1.

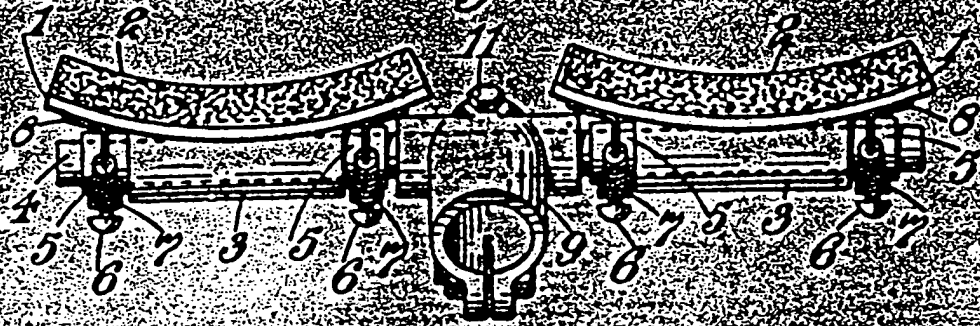


Fig. 2.

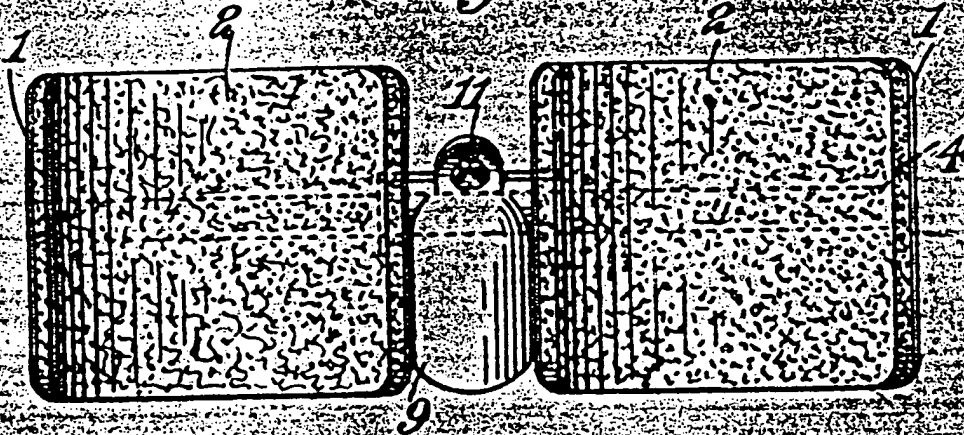
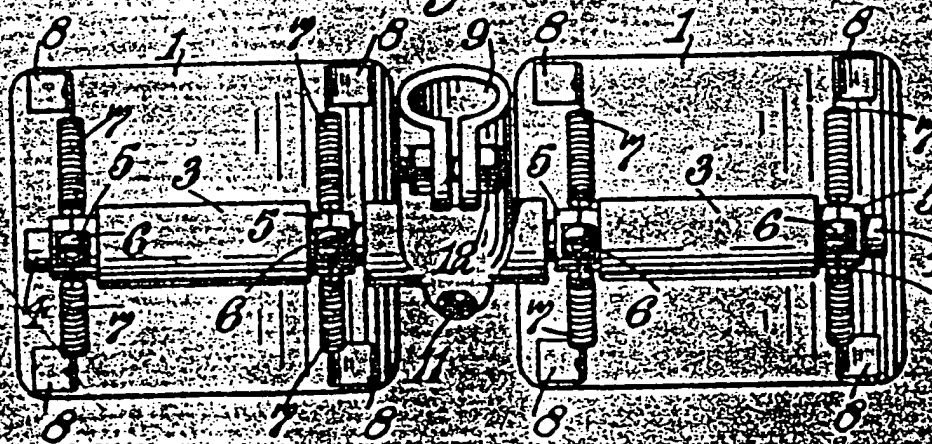


Fig. 3.



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